

In the claims:

Please amend the claims as follows:

1. (Currently Amended) An isolated or recombinant polynucleotide comprising a ~~member selected from the group consisting of:~~

——(a)—— a polynucleotide having at least a 70% identity to a polynucleotide encoding an enzyme comprising ~~the~~ an amino acid sequence set forth in SEQ ID NO:4 and having an alpha galactosidase activity; ~~and~~

——(b)—— a polynucleotide that is completely complementary to a polynucleotide of (a).

2. (Currently Amended) The polynucleotide of claim 1, wherein the polynucleotide is comprises a DNA.

3. (Currently Amended) The polynucleotide of claim 1, wherein the polynucleotide is comprises an RNA.

4. (Previously Amended) The polynucleotide of claim 2, which encodes an enzyme comprising amino acids 1 to 346 of SEQ ID NO:4.

5. (Currently Amended) An isolated or recombinant polynucleotide comprising a ~~member selected from the group consisting of:~~

——(a)—— a polynucleotide having at least a 90% identity to a polynucleotide encoding an enzyme having a sequence as set forth in SEQ ID NO:4 and having an alpha galactosidase activity; ~~and~~

——(b)—— a polynucleotide completely complementary to a polynucleotide of (a).

6. (Currently Amended) A vector comprising the DNA of claim 2 or the polynucleotide of claim 1.

7. (Currently Amended) A host cell comprising the vector of claim 1 ~~3~~ 6.

8. (Currently Amended) A process for producing a polypeptide comprising expressing from the host cell of claim 14 7 a polypeptide encoded by said DNA, or, expressing from a host cell the polynucleotide of claim 1.

9. (Previously Amended) A process for producing a cell that expresses the polypeptide encoded by a DNA contained in a vector comprising transforming or transfecting the cell with the vector of claim 6.

Claims 10 – 12. (Canceled)

13. (Currently Amended) The polynucleotide of claim 1, wherein the polynucleotide has at least 95% identity to a polynucleotide encoding the amino acid sequence set forth in SEQ ID NO:4 and encodes a protein having an alpha galactosidase activity.

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14. (Currently Amended) The polynucleotide of claim 13, wherein the polynucleotide has at least 97% identity to a polynucleotide encoding an alpha galactosidase comprising the amino acid sequence set forth in SEQ ID NO:4 and encodes a protein having an alpha galactosidase activity.

Claims 15-16. (Canceled)

17. (Previously Amended) The polynucleotide of claim 2, wherein the DNA is cDNA or synthetic DNA.

18. (Previously Amended) The polynucleotide of claim 2, wherein the DNA is single stranded.

19. (Currently Amended) The polynucleotide of claim 18, wherein the single stranded DNA is a coding sequence of a polypeptide having an alpha galactosidase activity.

20. (Previously Amended) The vector of claim 6, wherein the DNA is operably linked to an expression control sequence suitable to direct mRNA synthesis.

21. (Currently Amended) The vector of claim 6, wherein the vector is comprises a plasmid, a viral particle, or a phage.

22. (Previously Amended) The vector of claim 6, wherein the vector is comprises an expression vector.

23. (Previously added) The polynucleotide of claim 2, operably linked to an expression control sequence.

24. (Currently Amended) An isolated or recombinant polynucleotide that hybridizes to a polynucleotide that encodes a polypeptide having a sequence as set forth in SEQ ID NO:4, or a complement thereof, and wherein the polypeptide has an alpha galactosidase activity, and the hybridizing conditions comprise 0.9 M NaCl, 50 mM NaH<sub>2</sub>PO<sub>4</sub>, pH 7.0, 5.0 mM Na<sub>2</sub>EDTA, 0.5% SDS, 10x Denhardt's, and 0.5 mg/mL polyriboadenylic acid at 45°C.

25. (Currently Amended) The isolated or recombinant polynucleotide of claim 24, wherein the polynucleotide that encodes SEQ ID NO:4 comprises SEQ ID NOS:1, 2, or 3.

26. (Currently Amended) The isolated or recombinant polynucleotide of claim 24, wherein the isolated or recombinant polynucleotide hybridizes polynucleotides hybridize under stringent conditions to a polynucleotide that encodes a polypeptide having a sequence as set forth in SEQ ID NO:4, wherein the stringent conditions comprise conditions where hybridization will occur only if there is at least 95% identity between sequences.

27. (Currently Amended) The isolated or recombinant polynucleotide of claim 24, wherein the polynucleotides hybridize under conditions further comprising a wash step of 1X

SET (150 mM NaCl, 20 mM Tris hydrochloride, pH 7.8, 1 mM Na<sub>2</sub>EDTA) containing 0.5% SDS at room temperature.

28. (Currently Amended) The isolated or recombinant polynucleotide of claim ~~27~~24, wherein the wash step further comprises another wash in fresh 1X SET at T<sub>m</sub>-10°C, wherein T<sub>m</sub> is a melting temperature for hybridized polynucleotides.

29. (Currently Amended) An isolated or recombinant nucleic acid fragment comprising ~~a nucleic acid sequence of a portion at least 12 contiguous nucleotides~~ of the isolated polynucleotide of claim 1 or claim 24 ~~claims 1, 5, or 24, wherein the fragment encodes a polynucleotide having alpha-galactosidase activity~~.

30. (Currently Amended) An isolated or recombinant nucleic acid fragment comprising ~~a nucleic acid sequence of a portion at least 12 contiguous nucleotides~~ of a polynucleotide encoding SEQ ID NO:4, ~~wherein the fragment encodes a polypeptide having alpha-galactosidase activity~~.

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Claims 31-33. (Canceled, without prejudice)

34. (Currently Amended) An isolated or recombinant nucleic acid fragment consisting of ~~a nucleic acid sequence that is a portion at least 12 contiguous nucleotides~~ of a polynucleotide encoding SEQ ID NO:4 set forth in SEQ ID NOS:1, 2, or 3, and wherein the isolated or recombinant nucleic acid comprises one of a pair of primers capable of identifying capable of amplifying a polynucleotide encoding a polypeptide having an alpha galactosidase activity or is capable of hybridizing to a nucleic acid encoding a polypeptide having alpha galactosidase activity under conditions comprising 0.9 M NaCl, 50 mM NaH<sub>2</sub>PO<sub>4</sub>, pH 7.0, 5.0 mM Na<sub>2</sub>EDTA, 0.5% SDS, 10x Denhardt's, and 0.5 mg/mL polyriboadenylic acid at 45°C and a wash step of 1X SET (150 mM NaCl, 20 mM Tris hydrochloride, pH 7.8, 1 mM Na<sub>2</sub>EDTA) containing 0.5% SDS at room temperature.

35. (Canceled, without prejudice)

36. (Currently Amended) The isolated or recombinant nucleic acid fragment of claim 29, claim 30 or claim 34, wherein the sequence is at least 30 bases.

37. (Currently Amended) The isolated or recombinant nucleic acid fragment of claim 36 29, wherein the sequence is at least 50 bases.

38 - 41. (Canceled, without prejudice)

42. (Currently Amended) A polynucleotide probe comprising the isolated or recombinant nucleic acid fragment of claim 29.

43. (Currently Amended) A polynucleotide probe comprising the isolated or recombinant nucleic acid fragment of claim 30.

EB 44. (Currently Amended) A polynucleotide probe comprising the isolated or recombinant nucleic acid fragment of claim ~~31~~ 34.

45. (Currently Amended) A polynucleotide probe comprising ~~the~~ a nucleic acid comprising a fragment of any one of the isolated or recombinant nucleic acid as set forth in claim elaims 32- 34.

[ Please add the following new claims: ]

46. (NEW) An isolated or recombinant nucleic acid completely complementary to a nucleic acid having at least a 70% sequence identity to a nucleic acid encoding an enzyme comprising the amino acid sequence set forth in SEQ ID NO:4 and having an alpha galactosidase activity.

47. (NEW) The isolated or recombinant nucleic acid of claim 46, wherein the isolated or recombinant nucleic acid is completely complementary to a nucleic acid having at least a 80% sequence identity to a nucleic acid encoding an enzyme comprising the amino acid sequence set forth in SEQ ID NO:4 and having an alpha galactosidase activity.

48. (NEW) The isolated or recombinant nucleic acid of claim 47, wherein the isolated or recombinant nucleic acid is completely complementary to a nucleic acid having at least a 90% sequence identity to a nucleic acid encoding an enzyme comprising the amino acid sequence set forth in SEQ ID NO:4 and having an alpha galactosidase activity.

49. (NEW) An isolated or recombinant nucleic acid comprising a sequence of at least 12 contiguous nucleotides of a complementary strand of an isolated polynucleotide as set forth in claim 1.

50. (NEW) An isolated or recombinant nucleic acid comprising a sequence of at least 12 contiguous nucleotides of a complementary strand of a polynucleotide encoding SEQ ID NO:4.

51. (NEW) The isolated or recombinant nucleic acid of claim 49 or claim 50, wherein the isolated or recombinant nucleic acid comprises a sequence of at least 15 nucleotides.

52. (NEW) The isolated or recombinant nucleic acid of claim 51, wherein the isolated or recombinant nucleic acid comprises a sequence of at least 30 nucleotides.

53. (NEW) The isolated or recombinant nucleic acid of claim 52, wherein the isolated or recombinant nucleic acid comprises a sequence of at least 50 nucleotides.

54. (NEW) The isolated or recombinant nucleic acid of claim 49 or claim 50, wherein the sequence comprises a sense strand or an antisense strand.

55. (NEW) The isolated or recombinant polynucleotide of claim 1, wherein the isolated or recombinant polynucleotide has at least a 80% sequence identity to a nucleic acid encoding an enzyme comprising an amino acid sequence set forth in SEQ ID NO:4 and having an alpha galactosidase activity.

56. (NEW) The isolated or recombinant polynucleotide of claim 1, wherein the alpha galactosidase activity comprises hydrolysis of raffinose, stachyose or verbascose.

57. (NEW) The isolated or recombinant polynucleotide of claim 56, wherein the alpha galactosidase activity comprises hydrolysis of raffinose, stachyose or verbascose in beans.

58. (NEW) The isolated or recombinant nucleic acid of claim 1, wherein the polynucleotide comprises a sense sequence or an antisense sequence.

59. (NEW) The polynucleotide of claim 18, wherein the single stranded DNA comprises an antisense sequence.

60. (NEW) The isolated or recombinant nucleic acid fragment of claim 29, claim 30 or claim 34, wherein the sequence is at least 15 bases.

61. (NEW) An isolated or recombinant polynucleotide comprising a polynucleotide encoding polypeptide having a sequence as set forth in SEQ ID NO:4.

62. (NEW) The host cell of claim 7, wherein the cell is a bacterial cell, a fungal cell, a yeast cell, an insect cell, a plant cell or an animal cell.

63. (NEW) The host cell of claim 62, wherein the animal cell is a mammalian cell.

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